Biodiversity

Sensitive Habitats and fishing footprint off Canary Islands seamounts Amanay and El Banquete

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Abstract

The main objective of the LIFE+ INDEMARES project is to contribute to the protection and sustainable use of the biodiversity in the Spanish seas through the identification of valuable areas for the Natura 2000 Network. The Spanish Institute of Oceanography (IEO) has been in charge of implementing scientific surveys to map sensitive habitats of seven of the ten INDEMARES areas, and to determine the fisheries footprint over these areas.

Sur y Oriente de Fuerteventura y Lanzarote is one of the areas chosen to be depicted in the frame of INDEMARES project, although the study about benthic habitats and fishery footprint carried by IEO has restricted to Amanay and El Banquete Seamounts. El Banquete really is the extension of southern continental shelf while Amanay seamount is located at 25 km from Jandía Lighthouse (S of Fuerteventura) and 55 km from Las Palmas de Gran Canaria, at the coordinates 28º 07' Latitude N and 14º 44' Longitude W, both volcanic buildings raise from more than 2,000 m up to their summits at 25-30 m deep, separated by a 1.500 m deep channel.

The biological richness of Amanay and El Banquete seamounts is very influenced by the deep water up-welling phenomena, which create a high productivity, attracting a multitude of pelagic species, such as cetaceans, turtles, sharks, and tunas looking for food. There is also a high influence from Saharian up-welling. Both the seamounts tops and their vicinities are often visited by a large artisanal local fishing fleet which profits of their fishery resources; also a rich invertebrate fauna cohabits in their bottoms. In general, its main impacts are related to uncontrolled fishing pressure, and maritime navigation. The available information on the anthropogenic impact of the area was scarce, and its level of research was very poor as well, before INDEMARES project.

Methodology approach complies with a multidisciplinary perspective, having described the area from geological, oceanographic, biological and fisheries points of view. Several surveys have taken place since 2009 to 2013 at Amanay and El Banquete waters. Traps, longlines, beam trawls, benthic dredges and box corers have been used to sample benthic fauna. These last two, plus EM 3002 multibeam echosounder, PS 18 parametric sub bottom profiler, EA600 monobeam sounder, Seapath 200 positioning sensor and SV Plus sound velocity calibration sensor were used to make a geophysical study which provides a range of environmental factors. CTD was used to depict physical conditions of the water column. Finally, different photogrammetric tugged sleds were used to make a great effort of visual sampling. Data from VMS (Vessel Monitoring System) were used, combined with interviews to users (fishers), landing samplings and scientific observation onboard, to describe the fishery uses in the area.